

ID: 76133409

Injury - Drug Overdose, Substance Use/Mental Health - Host Site Description

Minnesota Department of Health

Assignment Location: Saint Paul, US-MN
Minnesota Department of Health
Division of Injury Prevention and Mental Health

Primary Mentor: Deepa McGriff, MPH
Epidemiologist Supervisor
Minnesota Department of Health

Secondary Mentor: Nate Wright, MPH, PhD
Epidemiologist Principal
Minnesota Department of Health

Work Environment

Hybrid

Assignment Description

The Fellow will be placed within the Substance Use Epidemiology Unit, within the Injury Prevention and Mental Health Division. The Injury Prevention and Mental Health (IPMH) Division is responsible for statewide surveillance, strategic planning and coordination of surveillance and prevention across the areas of substance use including alcohol, suicide, violence, human trafficking, and ACES. Within IPMH, the Substance Use Epidemiology Unit is responsible for collecting and disseminating data related to substance use burden and drug overdose morbidity and mortality in Minnesota using administrative data alongside innovative surveillance systems like biosurveillance in select emergency departments and a statewide local spike alert response system. The Fellow will work closely with staff and mentors across the Division and within the Office of American Indian Health (OAIH) on cross-cutting projects to evaluate current surveillance work, contribute to emerging surveillance systems, and collaborate with local and Tribal partners on data governance and dissemination. Day to day activities will include review and validation of surveillance data, literature review, collaboration with Tribal agency and program liaisons, communicating with external partners, and processing and analyzing data. Being embedded in an active epidemiology group, the Fellow will regularly participate in team meetings, hear project updates and innovative work highlights, and problem-solve with internal partners to address barriers to project objectives.

Depending on remote work status, the Fellow will have his/her own cubicle equipped with a laptop and docking station, two large screen monitors, phone, file cabinets and office supplies. If remote work is necessary, computer equipment will be provided to equip a home office setup. Communal access to printers, copiers, fax machines and a fleet of vehicles are available for business use. The fellow will have access to a wellness area, nursing/lactation room, workout facility, and employee breakrooms. MDH offices are in downtown St. Paul, which provides access to restaurants, eateries and small businesses. IPMH has staff dedicated to providing clerical and administrative support. The state provides information and technology support to MDH staff through a centralized IT department, which is easily reached via phone or Internet.

Describe Statistical and Data Analysis Support, Such as Databases, Software, and Surveillance Systems Available to the Fellow

The Fellow will have access to several administrative datasets, including vital records data, hospital discharge data, syndromic surveillance data, biosurveillance data, and a subset of EMS data. The Fellow will also have access to R, Tableau, SAS, QGIS, and other statistical support software.

Projects

Surveillance Activity Title: Differences in Drug Overdose Morbidity and Mortality in Minnesota

Surveillance Activity Description:

Using occurrent death data, the Fellow will analyze morbidity and mortality age-adjusted rates for drug overdose across populations in Minnesota.

Surveillance Activity Objectives:

Objectives for this project are:

- Collect and validate data from fatal and nonfatal drug overdoses from vital records and hospital discharge data.
- Create estimates for age-adjusted mortality rates for the general population and for subpopulations.
- Evaluate accuracy and completeness of data for American Indians, including an analysis of racial classifications.
- Create documents for disseminating findings of analysis.

Expected deliverables are:

- A report with findings of race rates and related differences.
- Documents with technical guidance for age-adjusted mortality rates for Minnesota communities.

Surveillance Activity Impact:

This activity will promote accessibility for crucial data on community-specific drug overdose burden across a wide range of audiences, including policy makers, media, Tribal nations, local public health agencies, and community organizations.

Surveillance System Evaluation Title: Indigenous Data Sovereignty Alignment in Minnesota's Injury Surveillance

Surveillance System Evaluation Description:

The goal of this project is to evaluate data collection, analysis, and dissemination performed by the Injury Prevention and Mental Health Division and assess the extent to which current practices align with the framework of Tribal engagement outlined in CSTE's Tribal Epidemiology Toolkit and CARE Principles for Indigenous Data Governance.

Surveillance System Objectives:

Project objectives are:

- Conduct an environmental scan of injury data sources and surveillance systems which collect data on American Indians and/or Tribal members in Minnesota.
- Conduct an environmental scan on Tribal engagement in Injury Prevention and Mental Health projects, grants, and activities.
- Review current activities and identify areas of alignment and opportunities for greater alignment with the best practices outlined in CSTE's Tribal Epidemiology Toolkit and CARE Principles for Indigenous Data Governance.
- In collaboration with current IPMH staff and the MDH American Indian Collaborative, collect feedback from key stakeholders, including Tribal health staff, on areas of current or future alignment with Tribal epidemiology best practices (as described above).

Expected deliverables are:

- Descriptive report of environmental scan of injury data and Tribal engagement activities, identifying future opportunities for implementing Tribal epidemiology best practices.
- Presentation of report findings to Injury Prevention and Mental Health Division leadership and staff.

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Surveillance System Impact:

This project will build principles of Indigenous data sovereignty into standard injury data practices through a detailed evaluation process and engagement process of division thought leadership and other key stakeholders. The operationalization of these principles will lead to equitable data practices which assist Tribal nations and Urban Indian health organizations in restoring and improving the health of their constituents.

Major Project Title: Development of Tribal Data Sharing Roadmap

Major Project Description:

This project will build on the findings and outcomes from the previous project (evaluation of injury data practice with identified Tribal epidemiology models) to develop a roadmap for the Injury Prevention and Mental Health Division to increase engagement with Tribal communities, promote equitable data practices and power-sharing with data, and document a long-term strategy to continue engagement beyond the Fellow's tenure.

Major Project Objectives:

Project objectives are:

- Use data from evaluation of injury data practices to identify areas of strength and growth for Tribal engagement.
- Develop a community engagement plan to increase collaboration and power-sharing with Tribal nations in Minnesota.
- Identify key leaders to provide input into strategy and implement roadmap.
- Assess data interests and unmet needs of Tribal nations and Urban Indian Health Organizations (UIHO) related to Minnesota's Injury Surveillance through partnership with the Office of American Indian Health and IPMH program staff serving Tribes and UIHOs.

Expected deliverables are:

Tribal partnership strategic roadmap document.

Major Project Impact:

This project will increase the MDH Injury Prevention and Mental Health Division's connections with Tribal nation health departments and UIHOs. In alignment with widely accepted community engagement principles, the project will create a plan and identify key champions to implement a sustained community engagement effort with Tribal nations and UIHOs with regard to injury data. These outcomes will strengthen our agency's relationships with Tribes and lead to mutual benefit across multiple areas of health and disease.

Additional Project #1 Title: Xylazine and Emerging Drug Trends in Minnesota

Project #1 Type: Surveillance Activity

Project #1 Description:

Xylazine, a veterinary sedative increasingly found in the illicit drug supply, has been linked to rising overdose deaths and severe health complications. This project will assess the presence and trends of xylazine in Minnesota by analyzing data from the following:

- State Unintentional Drug Overdose Reporting System (SUDORS) to examine xylazine-involved deaths
- Toxicology testing from the Minnesota Public Health Lab (PHL), including biosurveillance, law enforcement drug seizures, and community drug checking programs.
- Other drug overdose surveillance sources, such as hospital discharge and poison control data.
- The fellow will synthesize findings to inform public health and harm reduction strategies. If other emerging substances are identified as relevant during the fellowship, the analysis may expand to include additional drug threats.

Project #1 Objectives and Expected Deliverables:

- Conduct a data analysis of xylazine prevalence using Medical Examiner toxicology reports, PHL testing results, law enforcement drug seizures data, and community-based drug checking programs.
- Develop a data brief summarizing xylazine trends and its intersection with the drug overdose landscape in Minnesota.
- Provide recommendations for surveillance enhancements and public health messaging to address emerging drug threats.

Project #1 Impact:

This project will provide a clearer understanding of xylazine's role in Minnesota's drug supply and overdose landscape, helping to inform harm reduction strategies, surveillance improvements, and potential policy responses. Findings will enhance anomaly alert system and support real-time public health decision-making, with flexibility to adapt to additional emerging substances as needed.

Additional Project #2 Title: Identification of Strength-Based Approaches from a Tribal Epidemiology Lens

Project #2 Type: Surveillance System Evaluation

Project #2 Description:

There is growing call among Tribal leaders for strengths-based approaches to injury and violence prevention. This project would involve conducting a literature review on strengths-based approaches in epidemiological practice with American Indian populations, including multiple surveillance systems like hospital discharge data, EMS data, death certificate data, and syndromic surveillance.

Project #2 Objectives and Expected Deliverables:

Expected deliverables are:

- Summary of literature review on strengths-based approaches in epidemiological practice with American Indian populations.

Project #2 Impact:

This project would bring attention, and eventually funding, to integrating strengths-based approaches for collecting, analyzing, and disseminating data about, and with Tribal nations and urban American Indian populations.

Additional Project #3 Title: Analysis of Incentive - Based Substance Use Prevention Strategies

Project #3 Type: Surveillance System Evaluation

Project #3 Description:

There is growing evidence that incentives are an effective strategy in substance use prevention among stimulant users. This project would involve conducting a literature review on evidence-based or promising practices in stimulant use prevention, including incentives-based programs and policies. This project would aim to describe the epidemiology of stimulant use in Minnesota using existing surveillance systems (including multiple surveillance systems like hospital discharge data, EMS data, death certificate data, and syndromic surveillance) and identifying gaps in these systems.

Project #3 Objectives and Expected Deliverables:

Expected deliverables are:

- Summary of literature review on evidence-based or promising practices for stimulant use prevention methods.
- Data brief on stimulant use trends in Minnesota, using death certificate data, hospital discharge data, and biosurveillance data.

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Project #3 Impact:

This project would bring attention, and eventually funding, to promising practices around stimulant use prevention, which is increasingly a concern in Minnesota, with disproportionate impacts in many communities across the state.

Please Describe the Fellow's Anticipated Role in Preparedness and Response Efforts – Include Activities and Time Allocation (Required Competency of Fellowship)

The fellow will participate in preparedness and response efforts related to local drug overdose spikes and anomalies. This work will include the following activities, representing 5-10 hours per week for 12 months of the fellowship duration:

- Support pilot site implementation by assisting new sites, gathering feedback, and refining the state protocol and community response guide.
- Validate spike detection methodology and explore additional data sources, including poison control and Syringe Service Program reporting.
- Develop a reporting tool for Syringe Service Programs to track nonfatal overdoses and emerging drug trends.
- Conduct a gap analysis comparing ODMAP and NEMSIS data to assess law enforcement-only overdose encounters and identify gaps in overdose reporting. Findings will provide evidence to support the implementation of Minnesota's recent proposal to integrate EMS data into ODMAP via API or help build a case for future legislative efforts if the proposal was not enacted.
- Assist in overdose case investigation, including coordination with State Public Health Lab to transport available physical samples or biological specimens to for expanded toxicology testing.
- Conduct daily reviews of case to identify and analyze local overdose spikes or anomalies detected in EMS and emergency department data.
- Provide technical assistance to local and Tribal public health to strengthen engagement and response efforts.
- Evaluate the first year of statewide implementation including pilot outcomes, and present case studies on how findings informed response strategies.
- Develop case studies, contribute to presentations or publications, and support training to enhance local response capacity.

Please Describe the Fellow's Anticipated Role in Cluster and Outbreak Investigations – Include Activities and Time Allocation (Required Competency of Fellowship)

The Fellow will play a key role in identifying and investigating overdose clusters and outbreaks by conducting routine surveillance and analyzing spikes that meet moderate or severe detection thresholds in EMS and emergency department data. They will coordinate with internal partners to gather case details, including toxicology results from the State Public Health Lab when applicable, to determine the substances involved and assess emerging drug threats. As part of the response effort, they will facilitate communication with local public health, harm reduction organizations, and other key partners to ensure findings are quickly translated into action. Additionally, the Fellow will support the refinement of spike detection methodologies and explore new data sources, like poison control and Syringe Service Programs, to enhance to alert system. Their work will contribute to the development of case studies and response protocols, helping to strengthen statewide overdose surveillance and preparedness efforts.